

Allocation of Blocks by LF	
H & S Co, 1 MAF	0 to 500
1st FSSG	501 to 1200
NMCB	1200 to 1300
1st MARDIV	1301 to 2200
2nd MARDIV	2201 to 3100
1st MAW	3101 to 4000
Allocation of Blocks by Division	
HQBN	1301 to 1350
1st MAR	1401 to 1500
Allocation of Blocks by Wing	
MWHS	3101 to 3200
MAG-13	3201 to 3300
Allocation of Blocks by Regiment	
HQ CO 1st MAR	1401 to 1425
1st BN 1st MAR	1426 to 1475

Figure 3-21. Serial Number Allocation

**3.4.2.8 Assault Schedule.** The assault schedule provides the formation, composition, and timing of scheduled and on-call waves. The GCE commander considers subordinate commanders' recommendations regarding numbers of waves on to designated beaches and numbers and types of amphibious vehicles and landing craft in each wave when preparing this schedule. An example of an assault schedule is depicted in Figure 3-24.

**3.4.2.9 Amphibious Vehicle Employment Plan.** The amphibious vehicle employment plan shows the planned employment of AAVs and lighter, amphibious resupply, cargo-5 ton (LARC Vs) in the assault, including their employment after arrival at the beach. The GCE commander considers subordinate commanders' recommendations when preparing the plan in addition to information contained in the landing diagram and assault schedule. An example of an amphibious vehicle employment plan is depicted in Figure 3-25.

**3.4.2.10 Helicopter Availability Table.** The helicopter availability table shows the number of helicopters available for the helicopterborne ship-to-

shore movement. It lists helicopter units and their call sign, number of helicopters available for first and subsequent trips, helicopter model, parent helicopter transport, maximum deck launch spots available on each helicopter transport, and tentative helicopter load capacity. The table is prepared by a representative from the air combat element (ACE) and pertains only to D-day operations. An example of a helicopter availability table is depicted in Figure 3-26.

**3.4.2.11 Heliteam Wave and Serial Assignment Table.** The heliteam wave and serial assignment table specifies the troop units, supplies, and equipment that are to be loaded into each helicopter. It identifies each heliteam (analogous to a boat team) by serial number with the wave number and helicopter position in the wave. An example of a heliteam wave and serial assignment table is depicted in Figure 3-27. The weight column provides a check that maximum helicopter lift capability is not exceeded by the serial. A helicopter enplaning schedule (similar to the ship's diagram) is also prepared to show each enplaning station on the flight deck, the sequence and location for spotting helicopters, and the heliteam serials assigned to that enplaning station. This table and schedule is prepared on each helicopter transport by the helicopterborne unit commander, assisted by the helicopter unit commander, and it is coordinated with the ship's CO.

**3.4.2.12 Helicopter Landing Diagram.** The helicopter landing diagram graphically displays routes to and from HLZs. An example of the helicopter landing diagram is depicted in Figure 3-28. It shows the helicopter transport area, rendezvous point (RP), departure point (DP), approach and retirement routes, other control points, LZs, and remarks for clarity. The diagram is prepared by a representative from the ACE in coordination with the helicopter coordination section (HCS) and helicopter transport group/unit commander and is submitted to CATF for approval and coordination with the waterborne assault and supporting fire planning.

**3.4.2.13 Helicopter Employment and Assault Landing Table (HEALT).** The HEALT is a detailed plan for the movement of helicopterborne troops, equipment, and supplies. It is the landing timetable for the helicopterborne ship-to-shore movement and specifies the assignment of serials to helicopters for scheduled and on-call waves.

This document is the basis for preparing flight schedules and is used by the primary HDC to control helicopter movements. The HEALT is prepared by a representative from the ACE in coordination with the

Landing Priority Table										
Unit	Day of Anticipated Landing									Remarks
	D	D + 1	D + 2	D + 3	D + 4	D + 5	D + 6	D + 7	D + 8	
RLT 5	X- - - ►									RED beach
RLT 7	X- ►									GREEN beach
3rd MAW	X- - - - - - - - - - ►									Landing zones to be designated
1st FSSG	X- - - - - - - - - - ►						►			Establish BSAs at RED and GREEN beaches
1st SRIG	X- - - - - - - - - - ►					►				RED and GREEN beach
1st Radio Bn (-)	X- - - ►									RED beach
Medical Co (rein)		X- - - ►								RED beach
1st CommBn (-)			X- - - ►							RED beach
1st Medical Bn (-)					X- - - - - - - - - - ►					RED beach

Figure 3-22. Example of a Landing Priority Table

HCS and primary HDC and is submitted to CATF for approval and coordination with supporting fire planning. CLF publishes the approved diagram and subordinate commanders publish extracts for their units. An example of a HEALT is depicted in Figure 3-29.

**3.4.2.14 Ground Combat Element (GCE) Landing Plan.** The majority of LF detailed planning for the ship-to-shore movement is conducted by the GCE commander. CLF and CATF must furnish the following information to subordinate units before planning begins:

1. Combat, combat support, CSS, LF aviation, and naval elements to be landed
2. Availability of helicopters, landing craft, and amphibious vehicles.

**3.4.2.14.1 Contents of the Plan.** The GCE landing plan is published as Appendix 3 to Annex R (Amphibious Operations) to the GCE OPORD. It includes a general description of the forces to be landed, the ship-to-shore control procedures, organization of the GCE TACLOG detachment, and the use of pontoon causeways for nonscheduled units.

An example of the GCE landing plan format is depicted in Figure 3-30.

**3.4.2.14.2 Assault Units.** All pertinent information for landing subordinate units is furnished to those units by the GCE headquarters. On the basis of this information, these units submit their landing plans to headquarters, and the GCE landing plan is published with the following documents:

1. Assault schedule
2. HEALT
3. Serial assignment table
4. Heliteam wave and serial assignment table
5. LF landing sequence table
6. Amphibious vehicle employment plan
7. Landing craft availability table
8. Helicopter landing diagram
9. Helicopter availability table.

LF Landing Sequence Table						
Unit	Element	Serial No.	Carrier No. Type	Ship	Beach	Remarks
1st & 2nd Plat ACo 2nd Tk Bn (FMF)		905	3 LCU	LSD	RED	
ACo(-) 2nd Tk Bn (FMF)		906	3 LCU	LSD	RED	
1st & 2nd Plat BCo 2nd Tk Bn		907	3 LCU	LSD	BLUE	
BCo(-) 2nd Tk Bn		908	3 LCU	LSD	BLUE	
1/10	ABtry	1013	7 LCM	LPD	RED	
1/10	BBtry	1014	7 LCM	LPD	RED	
	CBtry	1015	7 LCM	LPD	RED	
	HqBtry	1016	3 LCM	LPD	RED	
	DBtry	1023	8 LCM	LPD	BLUE	
Div TacCP		401	4 LCM	LHA	BLUE	
ACo(-) 2nd Eng.		105	4 LCM	LSD	RED	

Figure 3-23. Example of an LF Landing Sequence Table

**3.4.2.14.3 LF Reserve.** Reserve units prepare a landing plan in the same manner as an assault unit. However, if the entire LF reserve is a nonscheduled unit, its deployment is prescribed in the LF landing sequence table. Serial assignment tables are prepared for all units landing prior to general unloading.

**3.4.2.15 Regimental Landing Plan.** The regimental landing team (RLT) commander considers the tactical recommendations of BLT commanders and submits his recommended landing plan to the GCE commander. After the GCE landing plan is published, the RLT commander extracts pertinent information and publishes it as the RLT landing plan. The documents comprising the RLT landing plan are the same as those for the GCE landing plan.

**3.4.2.15.1 Other Regiments.** Reserve RLTs prepare landing plans according to the landing category

they are assigned. Units to be landed prior to general unloading prepare serial assignment tables. Landing of nonscheduled units is prescribed in the LF landing sequence table. Elements of regiments and reserve RLTs to be landed in on-call waves appear in the assault schedule, landing diagram, or HEALT.

**3.4.2.16 Battalion Landing Plan.** BLT commanders prepare the following documents as appropriate:

1. HEALT
2. Heliteam wave and serial assignment table
3. Landing craft and amphibious vehicle assignment table
4. Landing diagram

Assault Schedule					
Wave	Time	Beach			
		RED		BLUE	
		1	2	1	2
		Craft/VEH Unit Serial	Craft/VEH Unit Serial	Craft/VEH Unit Serial	Craft/VEH Unit Serial
1	H-hour	8 AAVP Asit Plats E&F Cos (+), BLT 2/6 604/704	8 AAVP Asit Plats A&B Cos, BLT 1/6 203/303	8 AAVP Asit Plats A&B Cos, BLT 2/2 606/706	8 AAVP Asit Plats A&B Cos, BLT 1/2 1801/1802
2	H+3 min	6 AAVP E&F Cos (+) 605/705	6 AAVP A&B Cos (+) 204/304	6 AAVP E&F Cos (+) 607/707	6 AAVP A&B Cos (+) 1802/1803
3	H+7 min	4 AAVP Leading Plats G Co 803	4 AAVP Leading Plats C Co 405	4 AAVP Leading Plats G Co 804	4 AAVP Leading Plats C Co 406
Rept PCS at H+90 min		2 AAVP Recon Party 2/10 10 AAVP I&K Cos (+), BLT 3/6 1302/1502/2001		2 AAVP Recon Party 1/10 8 LCM I&K Cos (+), BLT 3/2 2201/2301/1602	
Rept PCS at H+50 min		10 AAVP Leading Plats L & Wpn Cos, BLT 3/6 1701/1803		10 LCM Leading Plats L & Wpn Cos, BLT 3/2 1703/1804	
Rept PCS at H+55 min		10 AAVP L & Wpn Cos (+) BLT 3/6 1702/1805		2 LCM L & Wpn Cos (+), BLT 3/2 2401/2501	
Rept PCS at H+60 min		6 AAVP BLT Hq 3/6 2101		6 LCM BLT Hq 3/2 2601	
Rept ACCS at H+90 min				10 LCM Division Adv CP 1901	
Rept ACCS at H+120 min				3 LST 2nd Tk Bn (+) rein 907	

Figure 3-24. Example of an Assault Schedule

Amphibious Vehicle Employment Plan							
Ship	Number and Type Amphibious Vehicles				Wave	Destination	Remarks
	AAVP7	AAVC7	AAVR7	LARC			
LST 1179	5		1		1	BEACH RED 1	Aslt Plats, Co B
LST 1180	5						Asit Plats, Co F
LSD 36	5		1		1	BEACH RED 2	Aslt Plats, Co A
LSD 37	5						Asit Plats, Co B
LST 1179	5				2	BEACH RED 1	Co E (-), BLT 2/6
LST 1180	5	1					Co F (-), BLT 2/6
LSD 36	5				2	BEACH RED 2	Co A (-), BLT 1/6
LSD 37	5						Co B (-), BLT 1/6
LST 1181	10	1			3	BEACH RED 1	Co G, BLT 2/6
LSD 38	10	1			3	BEACH RED 2	Co C, BLT 1/6
(etc. for the entire first trip of vehicles)							
LPD 4				2		Primary control ship RED beach	Land Beach Party Team
LSD 37				2		Primary control ship RED beach	Land Beach Party Team
(etc. for subsequent employment)							

Figure 3-25. Example of an Amphibious Vehicle Employment Plan

5. Consolidated landing and approach plan (prepared jointly by the BLT and PCO, in lieu of using separate employment plans and approach schedules). An example of a consolidated landing and approach plan is depicted in Figure 3-31.

6. Debarkation schedule (prepared jointly by ship's CO and CO of troops).

#### 3.4.2.16.1 Battalions Other Than Infantry.

Combat support unit commanders prepare the same documents as the BLT for orderly debarkation and movement ashore.

**3.4.2.17 Air Combat Element (ACE)/LF Aviation Landing Plan.** The ACE/LF aviation landing plan outlines the ACE commander's plans for establishing aviation units ashore by air and surface means. It provides detailed plans for landing air elements embarked in assault shipping with scheduled or on-call waves or as nonscheduled units. This plan serves as the LF aviation landing plan when the wing is the ACE. An example of an ACE/LF aviation plan format is depicted in Figure 3-32.

**3.4.2.17.1 Contents.** The plan provides for the echelonment and landing sequence of aviation units established ashore. It contains:

Helicopter Availability Table									
Helicopter Unit and Call Sign	Number of Helicopters	Number of Helicopters Available		Model	Parent Helicopter Transport	Maximum Deck Launch Spots Available	Tentative Load Capacity		Remarks (as appropriate)
		First Trip 90% (Note 1)	Other Trips 75% (Note 1)				Troops	Cargo (lb)	
HMM-163 (ANVIL)	12	10	9	CH-46E	LHA 1	9	16	4,080	All external lift capable.
HMM-164 (RIPPER)	12	10	9	CH-46E	LPH 7	7	16	4,080	All external lift capable.
HMA-266 (SCARFACE)	12	10	9	AH-1W	LPH 2	7	NA	NA	Escort and CAS
HMA-267 (HOB0)	12	10	9	UH-1N	LHA 1	9	8	3,000 (Note 2)	Ten armed with 50-cal MG.
HMH-465 (HAULER)	16	14	12	CH-53E	LHA 3	9	32	32,000	Equipped with aircraft recovery sling.
HMH-466 (ELVIS)	16	14	12	CH-53D	LHA 2	9	32	14,000	All external lift capable.
Notes: 1. These percentages may vary from operation to operation. 2. The UH-1N has only 220 cubic feet of cargo space and would normally exceed available volume before exceeding weight limitations. 3. Sea level at 90°F.									

Figure 3-26. Example of a Helicopter Availability Table

1. Detailed landing documents for air elements which move ashore prior to general unloading
2. Ship-to-shore control provisions
3. Confirmation on pontoon causeways, fuel handling systems, and landing naval construction regiment (NCR) elements to support aviation facilities ashore.

**3.4.2.17.2 Composition of Echelons.** Elements of air control support and fixed wing STOVL squadrons and helicopter groups comprise the first echelon and are

landed by helicopter and landing craft as part of the LFSP (see Appendix K). The second echelon of these units is landed across beaches normally as nonscheduled units and consists of heavy equipment and personnel required for sustained operations.

The initial echelon of the remainder of fixed wing aircraft groups is personnel and heavy equipment for base operations and maintenance. This echelon is surface-lifted into the AOA and landed across beaches. The second echelon comprising aircraft, pilots, and crews is flown into the AOA when facilities are ready.

Heliteam Wave and Serial Assignment Table							
Wave	Heliteam Flight Serial (Note 1)	Personnel	Number	Supplies and Equipment	Lift Capacity XXXX (Note 2)		
		Troop Unit			Personnel	Equipment	Total Weight
	ANVIL 101 100-1	1st Sqd, 1st Plat, Co A Aslt Tm, 1st Aslt Sqd, Wpns Plat	13 3 16	IM Dragon (31 lb) 2 Dragon Rds (50 lb)	3,840	81	3,921
	ANVIL 102 100-2	2nd Sqd, 1st Plat, Co A Aslt Tm, Aslt Sqd, Wpns Plat	13 3 16	IM Dragon (31 lb) 2 Dragon Rds (50 lb)	3,840	81	3,921
	ANVIL 103 100-3	Plat Cdr, 1st Plat, Co A Msgr 3d Sqd (-) Corpsman Sqd Ldr, 1st MG Sqd MG Tm, 1st MG Sqd, Wpns Plat	1 1 9 1 1 4 17	1AN/PRC-77 (22 lb)	4,080	22	4,102
	ANVIL 110 100-10	Elms 3d Sqd, 1st Plat, Co A MG Tm, 1st MG Sqd, Wpns Plat LZ Cntl Tm (RED) Plat Sgt, 1st Plat, Co A Msgr Plat Guide, 1st Plat, Co A Corpsman Sqd Ldr, 1st Aslt Sqd, Wpns Plat	5 4 3 1 1 1 1 1 17	1 MG (24 lb)	4,080	24	4,104
Notes: 1. The heliteam flight serial is: ANVIL Heliteam squadron radio call sign 1 Heliteam wave number 01 Heliteam position in the wave 100 Troop unit serial assignment -1 Troop unit heliteam number 2. Lift capability is computed by the ACE based on helicopter model and expected environmental conditions.							

Figure 3-27. Example of a Heliteam Wave and Serial Assignment Table

The LF aviation organization for landing will differ greatly from their task organization for combat operations because of the division of air groups and squadrons into landing elements and the wide variation in time and method of landing these elements. The ACE/LF aviation landing plan provides for a regroupment of these elements into echelons which is described in the general paragraph of the OPORD.

**3.4.2.17.3 Scheduled, On-Call, and Non-scheduled Elements.** The ACE/LF aviation plan lists air elements landed in scheduled and on-call waves or as nonscheduled units. It also contains landing documents extracted from GCE landing plans to describe the method and sequence for landing. These documents are:



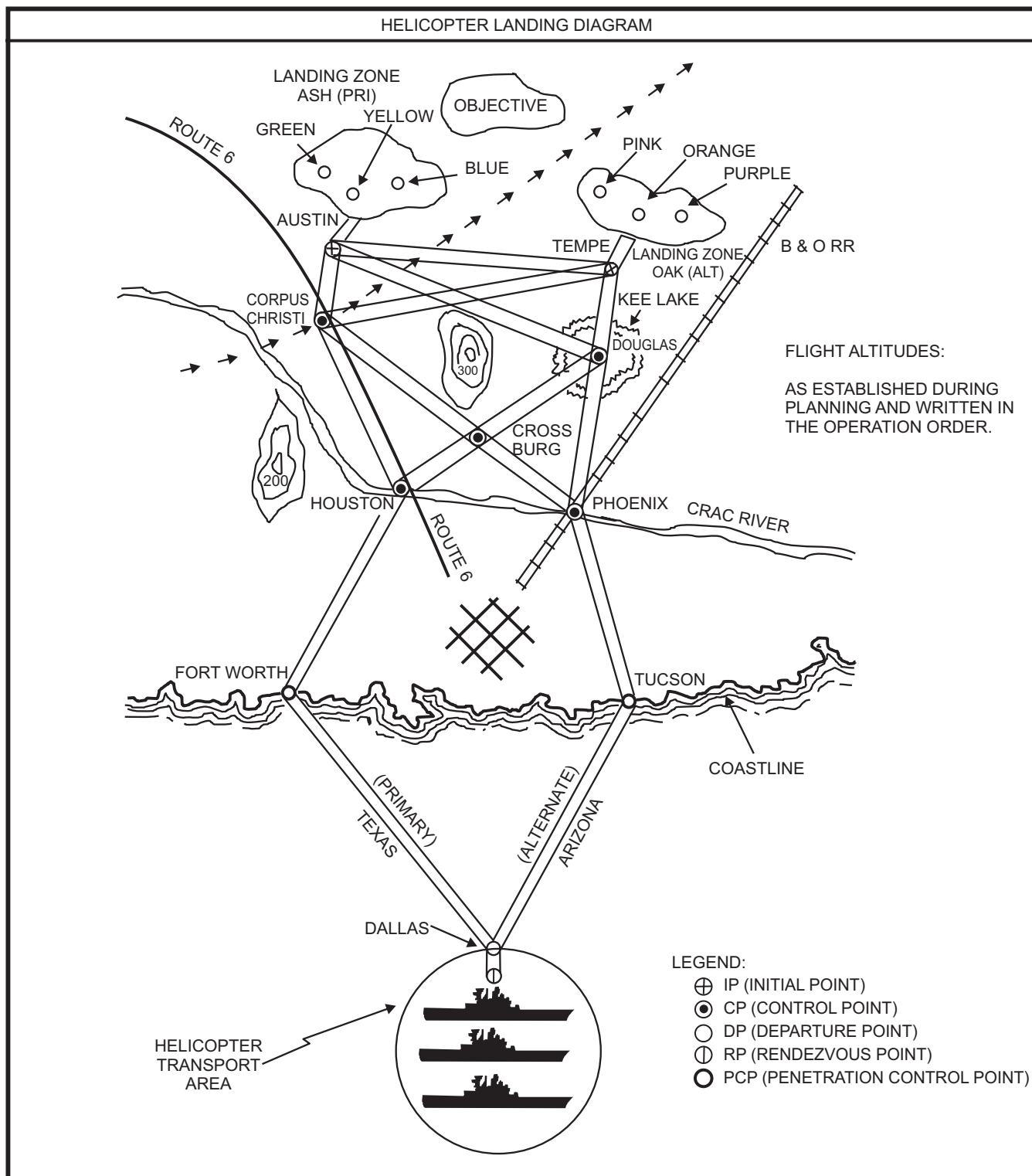


Figure 3-28. Example of a Helicopter Landing Diagram



Helicopter Employment and Assault Landing Table										
Wave	Helicopter Unit and Flight No.	Number and Model of Helicopter	From	To	Time			Destination		Troop Unit Serial Remarks
			Helicopter Transport	Helicopter Transport	Load	Launch	Land	LZ	LS	
1st	ANVIL-1	10 CH-46E	LHA 1	LHA 1	Preload	H - 21	H - Hr	Hawk	Blue	Co A (-) (Rein) Ser 101
	RIPPER-1	7 CH-46E	LPH 7	LPH 7	Preload	H - 21	H - Hr	Hawk	Green	Co B (-) (Rein) Ser 105
	SCARFACE-1	4 AH-1W	LPH 2	LPH 2	Preload	H - 21	NA	NA	NA	Escort
	HOBO-1	1 UH-1N	LHA 1	LHA 1	Preload	H - 21	NA	NA	NA	HCA (refuel as necessary)
2d	ANVIL-2	9 CH-46E	LHA 1	LHA 1	Preload	H - 11	H + 10	Eagle	Red	Elms Co "A" Ser 107
	RIPPER-2	7 CH-46E	LPH 7	LPH 7	Preload	H - 11	H + 10	Eagle	Green	Elms Co "B" Ser 103
	SCARFACE-2	4 AH-1W	LPH 2	LPH 2	Preload	H - 11	NA	NA	NA	Escort
3d	ANVIL-3	9 CH-46E	LHA 1	LPH 5	H + 39	H + 45	H + 71	Robin	Red	CO C (-) (Rein) Ser 211
	RIPPER-3	6 CH-46E	LPH 7	LPH 5	H + 39	H + 45	H + 71	Robin	Blue	Elms Co "C" Ser 212
	SCARFACE-3	4 AH-1W	LPH 2	LPH 5	NA	H + 45	NA	NA	NA	Escort
On-call	HAULER	16 CH-53E	LHA 3	LHA 3	TBA	On order	TBA	TBA	TBA	Resupply
	ELVIS	16 CH-53D	LHA 4	LHA 2	TBA	On order	TBA	TBA	TBA	Resupply

Figure 3-29. Example of a Helicopter Employment and Assault Landing Table (HEALT)

1. Extracts from assault schedules, HEALTs, and heliteam wave and serial assignment tables
2. Serial assignment table
3. Landing sequence table.

Serials, not part of the LFSP, to be landed in scheduled and on-call waves are submitted to CLF for coordination and approval. The GCE commander is then furnished the information to integrate air serials into the assault schedule. Nonscheduled units are serialized and incorporated into the LF landing sequence table.

Air control units, aviation headquarters squadrons, and base and logistics squadrons may be landed prior to commencement of general unloading to establish air facilities ashore. These units are normally landed as nonscheduled units.

Helicopter support teams (HSTs) are landed in scheduled waves. Air support radar teams usually are landed in on-call waves and are shown in the GCE's assault schedule or HEALT. Other air elements landed early in the ship-to-shore movement are serialized and shown in the GCE and LF landing sequence tables as nonscheduled units.

**3.4.2.17.4 Airfields, Pontoon Causeways, Fuel Handling Systems, and Engineering Operations.** The status of fixed-wing aviation facilities ashore determines when air elements will land. Information on when facilities will be ready is provided in the ACE/LF aviation landing plan and includes:

1. Time NCR elements will land and commence work on airfields
2. Estimated time installation of pontoon causeways for landing heavy aviation equipment will be completed

## GCE Landing Plan

### CLASSIFICATION

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011200 April 19

Appendix 3 (Ship-to-Shore Movement) to Annex R (Amphibious Operations) to Order 1 - [     ].

Ref:            (a)     NWP 22-3  
                  (b)     FMFM 1-8  
                  (c)     CTF 25 Operation Order 1-[     ]  
                  (d)     FMF Order \_\_\_\_\_ (CSS SOP)

Time Zone: H

#### 1. GENERAL

- a. This plan calls for:
- (1) Landing 1 RLT in 2 separate landing zones.
  - (2) Landing 1 RLT over beaches, with 2 BLTs abreast.
  - (3) Landing of scheduled waves to be accomplished by helicopter, LCAC, and AAV.
  - (4) The early landing of tanks to be accomplished by the beaching of LSTs as soon as scheduled waves have landed in assigned zones and on assigned beaches, secured dominating terrain, and cleared beach obstacles.
  - (5) The landing of the division reserve by helicopter and landing craft.
- b. For detailed instructions see enclosures in TABS.

#### 2. CONTROL MEASURES

- a. Ship-to-shore control in accordance with reference (a), (b), and (c).  
b. TACLOG detachments organize, embark, and function in accordance with references (c) and (d).

#### 3. PONTOON CAUSEWAYS AND BARGES

- a. TAB A to appendix 3 to reference (c) refers.

BY COMMAND OF MAJOR GENERAL ZULU

W. X. YANKEE  
Colonel, U.S. Marine Corps  
Chief of Staff

Tabs:

- A. Waterborne ship-to-shore movement  
B. Helicopterborne ship-to-shore movement

Distribution: IAW Annex Z to CTF 26 OPORD 1-[     ].

Page Number

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Figure 3-30. Example of a GCE Landing Plan Format

## CHAPTER 5

# Conducting the Helicopterborne Ship-to-Shore Movement

### 5.1 PURPOSE

This chapter discusses the doctrine, command relationships, delegation of authority, and the command and control organization for conducting landing force (LF) debarkation and the helicopterborne ship-to-shore movement.

### 5.2 BACKGROUND

Helicopters add significant flexibility to the amphibious assault. They operate from all amphibious ships and land in almost any cleared site within the landing area. During the build up of combat power ashore helicopters rapidly project the LF into helicopter landing zones (HLZs) to achieve surprise, avoid obstacles or defenses, or provide depth in the assault. Helicopters also quickly respond to tactical requests for their employment.

Helicopterborne forces are of necessity forces without organic heavy armor. Their employment is coordinated with waterborne assault forces for linkup and combat support.

**5.2.1 Helicopter Employment.** In the ship-to-shore movement, helicopters are used primarily for troop transport and logistics resupply. They are also used in command and control, observation, liaison, medical emergency evacuation (MEDEVAC), reconnaissance (RECON), search and rescue (SAR), tactical recovery of aircrew and pilot (TRAP), and illumination roles in support of the assault. Heavy lift helicopters are employed to transport artillery and light armored vehicles. Attack helicopters provide close-in fire (CIF) support, armed escort, and antiarmor capabilities. Helicopters are also used in the tactical employment of troops already ashore, whether helicopter or surface-landed. Helicopter movements must be closely coordinated with other users of airspace: fixed-wing aircraft and supporting fires. This coordination is provided during the ship-to-shore movement through the commander, amphibious task force's (CATF's) tactical air officer (TAO) and a helicopter coordination section (HCS) in the tactical air control center afloat (TACC afloat).

The HCS provides a central agency for planning and coordinating helicopter operations. Helicopters are LF assets under the operational control of commander, landing force (CLF). They support the scheme of maneuver ashore while also being responsive to tactical requests from the LF. As such, they are responsive to the plans and tactical decisions of CLF, subject to the overall authority of CATF. The LF aviation combat element (ACE) commander, acting for CLF, provides an ACE detachment to the HCS. It is the presence of the ACE detachment which empowers the HCS to direct the employment of LF helicopters. To facilitate helicopter responsiveness to LF requirements, CATF designates a helicopter transport group/unit commander for each helicopter landing zone (HLZ) within the landing area. Within the parallel chain of command, the helicopter transport group/unit commander is the counterpart of the LF helicopterborne unit commander who executes the helicopterborne assault into the designated HLZ. The helicopter transport group/unit command establishes a primary helicopter direction center (HDC) to provide helicopter air traffic control functions and a helicopter logistics support center (HLSC) to coordinate helicopter delivery requirements. An HCS detachment is assigned to the helicopter transport group/unit commander to direct the employment of LF helicopters within the helicopter transport group/unit commander's assigned sector. This sector normally includes the airspace surrounding helicopter capable ships, the helicopter approach and retirement lanes to and from the HLZ, and the airspace around that HLZ. The HCS detachment will include representatives from the ACE detachment which empowers the HCS detachment to direct LF helicopter employment within their assigned sector. The LF helicopterborne unit commander establishes a tactical logistics (TACLOG) detachment which is collocated with the helicopter transport group/unit commander. Requests from the helicopterborne unit ashore are made through the TACLOG detachments. The HLSC locates the requested combat support or combat service support (CSS) afloat and advises the HCS detachment of helicopter requirements. The HCS performs similar functions as the HCS within its sector of responsibility. Air traffic control is exercised through the primary HDC. Paragraphs 5.4.6, 5.4.8, and 5.4.9 discuss the HCS, primary HDC, and HLSC respectively, in particular the designation of a primary HDC to provide air traffic control for the

helicopterborne ship-to-shore movement during multideck helicopter transport operations.

**5.2.2 Tactical Organization.** Normally, helicopters are placed by CLF in support of the ground combat element (GCE) commander during the assault. This necessitates close coordination between the LF and Navy parallel chains of command. The helicopterborne unit commander's scheme of maneuver ashore dictates helicopter employment. Liaison between representatives from the helicopterborne unit commander, air combat element (ACE), HCS, and helicopter transport group/unit commander is required to develop the helicopter employment and assault landing table (HEALT).

**5.2.3 Helicopterborne Ship-to-Shore Movement Control Organization.** During the helicopterborne ship-to-shore movement, CATF maintains centralized control of helicopter operations through the tactical air control group (TACGRU) and decentralizes the execution to a helicopter transport group/unit commander(s). The control organization for the helicopterborne ship-to-shore movement is depicted in Figure 5-1. The organization shown is for a single LZ. When multiple LZs are employed in the landing area, a helicopter transport unit commander with a similar air traffic control and logistics support organization will be designated for each LZ.

Complete centralization of control by CATF, however, would limit CLF and subordinate commanders in reacting quickly to changing tactical situations and making minor adjustments to the landing plan. Complete decentralization of control, on the other hand, would compound problems of coordinating supporting arms and air space management, and deprive CLF of the ability to influence the tactical situation by rapidly employing helicopter assets. This is particularly significant in a ship-to-shore movement involving more than one HLZ where CLF must shift helicopter assets, especially heavy lift helicopters, from support of one helicopterborne unit to another. While centralized control is maintained by CATF through the TACGRU and by CLF through the TACLOG group, the execution of the helicopterborne ship-to-shore movement is decentralized to a helicopter transport group/unit commander by delegating the air traffic control of helicopters to a primary HDC and specific authority to change certain aspects of the assault is delegated to subordinate LF commanders.

### 5.3 Command Relationships

CATF is responsible for the amphibious operation and exercises command authority to ensure mission

success. Helicopter and helicopterborne units are component parts of the LF under the CLF's operational control. Helicopterborne operations in an amphibious operation do not alter the command relationship between CATF and CLF. CATF exercises his command authority over these operations through CLF.

**5.3.1 Relationship Between Ship's Commanding Officer (CO) and Embarked Helicopter Unit.** Helicopter units are under CLF's operational control. U.S. Navy Regulations establishes the authority of the ship's CO with respect to aircraft embarked in or operating from his ship.

**5.3.1.1 Authority of Ship's CO.** The ship's CO has certain authority and responsibility over embarked helicopter units. These include, but are not limited to:

1. Indoctrinating pilots and crews in safety-of-flight operations related to shipboard operations
2. Requiring all-weather day/night pilot qualifications for shipboard land/launch operations
3. Providing landing, launching, and air traffic control in the vicinity of the ship
4. Providing landing signal control
5. Maintaining control of flight deck and hangar deck operations and spotting
6. Providing and operating helicopter deck handling and servicing equipment
7. Providing intermediate maintenance facilities for helicopters
8. Loading personnel, equipment, and cargo in helicopters
9. Manifesting personnel
10. Handling and loading ammunition
11. Refueling helicopters
12. Providing heavy weather protection for helicopters

**5.3.1.2 Coordination Between Helicopter Unit Commander and Ship's CO.** The following matters related to operating LF helicopters from a ship are coordinated between the helicopter unit commander and ship's CO:

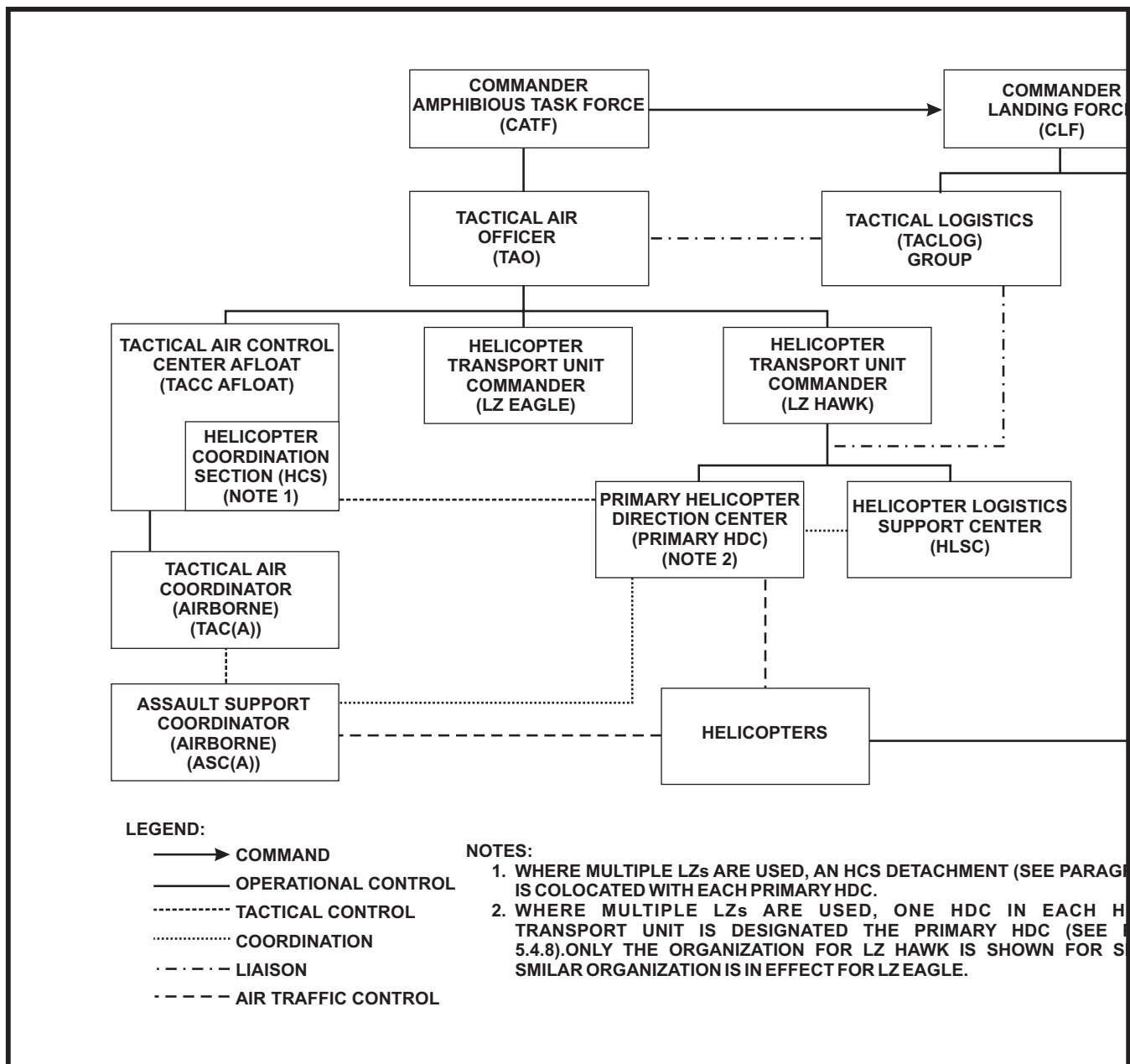


Figure 5-1. Control Organization During the Helicopterborne Ship-to-Shore Movement

1. Pilot qualifications and limitations
2. Aircraft limitations
3. Pilot briefings
4. Arrival, departure, and en route position reporting
5. Fuel, maintenance, and ordnance status reporting.

## 5.4 ORGANIZATION

CATF employs the TACGRU and helicopter transport group/unit commander to plan and conduct the helicopterborne ship-to-shore movement. CLF employs the TACLOG group to assist Navy control officers. This organization is depicted in Figure 5-1.

**5.4.1 Tactical Air Control Group (TACGRU).** The TACGRU is a tactical component of an amphibious force which provides aircraft control and warning facilities afloat for offensive and defensive

missions within the amphibious objective area (AOA). The TACGRU operates the TACC afloat, or tactical air direction center (TADC), to control all aircraft in the AOA. A component of the TACGRU, known as the tactical air control squadron (TACRON), provides the manning for the TACC afloat or TADC.

**5.4.2 Tactical Air Officer (TAO).** The TAO is a naval aviator or naval flight officer responsible for coordinating the planning of all phases of air participation in the amphibious operation and air operations of supporting forces en route to and in the AOA. Until air control is phased ashore, the TAO is charged with control of:

1. All aircraft in the AOA assigned for tactical air operations, including offensive and defensive air
2. All other aircraft entering or passing through the AOA
3. All air warning facilities in the AOA.

For the helicopterborne ship-to-shore movement the TAO is responsible for:

1. Planning and supervising the helicopterborne ship-to-shore movement
2. Organizing the TACGRU to support the amphibious task force (ATF) landing plan
3. Coordinating with the central control officer (CCO)
4. Maintaining liaison with the TACLOG group (see Appendix J).

**5.4.3 Tactical Air Controller (TAC).** The TAC is the officer in charge of all operations in the TACC afloat. This officer is responsible to the TAO for the control of all aircraft and air warning facilities within the AOA.

**5.4.4 Tactical Air Control Center Afloat (TACC Afloat).** The TACC afloat is the principal air operations installation from which all aircraft and air warning functions of tactical air operations in the AOA are controlled. All tactical aircraft and helicopter operations are coordinated with supporting arms and other air operations through the TACC afloat.

A TADC, located on the alternate command ship, is designated and assumes TACC afloat duties should CATF's flagship become a casualty.

#### **5.4.4.1 Tactical Air Direction Center (TADC).**

The TADC is a subordinate air operations installation of the TACC afloat, or tactical air command center ashore (TACC ashore), from which aircraft and air warning service functions of tactical air operations in an area of responsibility are directed. For example, a TADC is established for an attack group commander, as defined in paragraph 2.5.2, to conduct a simultaneous or nearly simultaneous assault at a landing area widely separated from the main assault; to support the advance force commander conducting preassault operations; or on the alternate flagship.

**5.4.5 Helicopter Coordination Section Officer (HCSO).** The HCSO is a naval aviator or naval flight officer responsible for the operation of the HCS of the TACC afloat. The HCSO coordinates the planning and execution of the helicopterborne ship-to-shore movement for the TAO.

#### **5.4.6 Helicopter Coordination Section (HCS).**

The HCS is an integral part of the TACC afloat. It coordinates all helicopter operations conducted by subordinate air traffic control agencies. The HCS has two subdivisions: the helicopter coordination unit (HCU) and helicopter advisory unit (HAU). The HCU directs and coordinates helicopter employment; the HAU monitors helicopter status, fuel requirements, available deck space, helicopter locations, helicopter armament, and the progress of the helicopterborne assault. This data is passed to the HCU to assist in helicopter employment decisions and actions. The HCS is augmented with personnel from the ACE during all phases of an amphibious operation.

The ACE also provides advice to the HCS on the employment and availability of helicopters and crews.

An HCS Det, located on the alternate command ship, is designated and assumes HCS duties should CATF's flagship become a casualty.

**5.4.6.1 Functions and Mission.** Functions and mission of the HCS are:

1. Coordinate helicopter movements with supporting arms and other air traffic in the AOA
2. Assign sectors, routes, and control points to each primary HDC when not covered in the operations order (OPORD), or when changes occur
3. Monitor helicopter operations conducted by primary HDCs, including MEDEVAC missions



4. Maintain readiness data on helicopters and helicopter capable ships
5. Act on requests for additional helicopter support
6. Reallocate and redirect helicopters when required
7. Monitor SAR operations
8. Prepare the daily air plan.

**5.4.6.2 Communications.** To accomplish these functions and missions, the HCS is the net control station for the helicopter request (HR), helicopter administrative (HA), and helicopter command (HC) nets. These nets are described in paragraph 5.7.2.

**5.4.6.3 HCS Dets.** When multiple LZs are designated an HCS Det is collocated with each primary HDC. The HCS Det performs functions similar to the HCS within its sector of responsibility which allows the primary HDC to focus on helicopter air traffic control. Functions of the HCS Det are:

1. Advise the helicopter transport unit commander on the most efficient employment of helicopters
2. Coordinate helicopter employment, when required, with the HCS
3. Coordinate changes to the HEALT with the helicopterborne RLT TACLOG detachment, HLSC, and primary HDC
4. Issue instructions to helicopter capable ships to open flight decks and launch or recover aircraft
5. Maintain liaison with the medical regulating team (MRT) to direct MEDEVAC helicopters to the appropriate casualty receiving and treatment ship (CRTS)
6. Guard the HC, HR, and HA nets.

**5.4.6.4 Amphibious Task Force (ATF) Medical Regulating Control Center (MRCC).** The ATF MRCC is collocated with the HCS and:

1. Maintains current medical capabilities of ships in the AOA
2. Designates which ships are to receive and treat casualties

3. Maintains liaison with MRTs collocated with primary HDCs on the medical regulating (MEDREG) net.

See Appendix G for additional information on MEDREG.

**5.4.7 Helicopter Transport Group/Unit Commander.** A helicopter transport group/unit commander is designated for each LZ and is responsible for providing helicopter air traffic control and facilitating the movement of serials ashore by helicopter. To accomplish this, the primary HDC and HLSC are collocated with the helicopter transport group/unit commander. The helicopter transport group/unit commander is also responsible for:

1. Taking tactical control of assigned ships
2. Landing scheduled waves in accordance with the HEALT and helicopter landing diagram
3. Maintaining the current location and status of ships and helicopters assigned to conduct the landing
4. Monitoring weather conditions and recommending the termination of flight operations when conditions warrant
5. Maintaining the status of debarkation or embarkation
6. Maintaining liaison with the helicopterborne RLT TACLOG detachment.

The helicopter transport group/unit commander's role in the helicopterborne ship-to-shore movement is analogous to the primary control officer (PCO).

**5.4.8 Primary Helicopter Direction Center (HDC).** The primary HDC is responsible for the air traffic control of helicopters operating within its assigned sector. In situations where multiple LZs are used, one HDC in each helicopter transport unit is designated by the TAO as the primary HDC. The primary HDC controls its part of the helicopterborne ship-to-shore movement by combining positive radar control with procedural control and providing air traffic control for helicopters from a rendezvous point (RP) to an LZ and from the LZ to a breakup point. It is a subordinate agency under the tactical control of the HCS for helicopter employment matters and operational control of the helicopter transport group/unit commander for helicopter air traffic control matters. It is the single air traffic control agency for helicopter employment orders originating



from the HCS, helicopter transport group/unit commander, and helicopterborne unit commander. Examples of employment orders synthesized by the primary HDC are: helicopter control and coordination orders from the HCS, safety of flight orders from the helicopter transport group/unit commander, and changes to the HEALT ordered by the helicopterborne unit commander. Other HDCs are designated as air operations centers and are responsible only for air traffic control within their local control areas. The primary HDC utilizes the HEALT and helicopter landing diagram as the time schedule and blueprint for the assault and coordinates with the assault support coordinator (airborne) (ASC(A)) (formerly the helicopter coordinator (airborne) (HC(A)) and HCS Det.

Facilities for primary HDCs are located in LHD, LHA, and LPH class ships and personnel that operate these facilities are provided from ship's company.

After helicopter control has been phased ashore, the primary HDC assists the direct air support center (DASC) by controlling helicopters between ships and the shore and being prepared to reassume control, if required. An alternate primary HDC is designated and assumes control should the primary HDC become a casualty.

**5.4.8.1 Functions and Mission.** The functions and mission of the primary HDC are:

1. Operate under the tactical control of the HCS
2. Control the movement of all helicopters operating in their assigned sector
3. Maintain a continuous radar plot of assigned transport helicopters and escorts
4. Act on requests for helicopter employment from the HCS, helicopter transport unit commander, and helicopterborne unit commander
5. Maintain and report to the HCS Det the status and location of assigned helicopters
6. Advise the HCS Det on helicopter movement requiring coordination with supporting arms
7. Monitor (ASC(A)) operations
8. Control the movement of MEDEVAC helicopters to CRTSs based on the recommendations of the medical regulating control officer (MRCO).

**5.4.8.2 Organization.** The organization of the primary HDC is described in paragraphs 5.4.8.2.1 to 5.4.8.2.4. HDCs designated as air operations centers are similarly manned; however, air traffic control is limited to local control areas.

**5.4.8.2.1 Helicopter Director.** The helicopter director is a helicopter qualified naval aviator in charge of all operations in the HDC. The helicopter director is responsible for:

1. Safe movement of helicopters in the assigned control area
2. Maintaining liaison with the HCS Det.

**5.4.8.2.2 Helicopter Direction (HD) Net Officer.** The HD net officer:

1. Is the HD net controller
2. Maintains communications with airborne helicopters, ASC(A)s, and escort aircraft
3. Keeps the helicopter director informed of helicopter and escort aircraft movements and readiness
4. Issues instructions to helicopters and escort aircraft under HDC air traffic control as directed by the helicopter director.

**5.4.8.2.3 Helicopter Air Controller.** The helicopter air controller:

1. Maintains a continuous radar plot of helicopters and escort aircraft under primary HDC air traffic control
2. Maintains voice communications with the HD net officer
3. Assumes net control of the HD net when positive radar air traffic control is directed by the helicopter director, issues maneuvering instructions to assigned helicopters and escort aircraft, and informs helicopter capable ships of the transfer of flight control from the primary HDC to individual ships air operations centers
4. Advises the helicopter director of any unusual helicopter movements in approach and retirement routes or identified radar contacts
5. Provides helicopter separation in the assigned control area.

**5.4.9 Helicopter Logistics Support Center (HLSC).** The HLSC is manned by LHD, LHA, or LPH ship's company personnel and it is located in close proximity to the HCS Det and helicopterborne regimental landing team (RLT) TACLOG detachment. The officer-in-charge of the HLSC is the helicopter logistics coordinator (HLC).

The HLSC coordinates the debarkation of serials in accordance with the HEALT and LF landing sequence table. Debarkation of on-call waves and nonscheduled units, including deviations from the LF landing plan, are coordinated with the applicable ships by the HLSC using the helicopter logistics command net.

After receiving a tactical request for serials, the helicopterborne RLT TACLOG detachment advises the HCS Det and HLSC, so the HCS Det can allocate helicopters and the HLSC can notify the specific ship carrying the serial of an impending requirement. After the allocation of helicopters has been confirmed by the HCS Det, the HLSC provides the details of the planned lift to the debarkation control officer of the ship concerned.

Responsibilities of the HLSC are:

1. Maintain liaison with the helicopterborne RLT TACLOG detachment and HCS Det and issue instructions to ships to prepare serials for helicopter debarkation
2. Maintain the status of serials including:
  - (a) Time of request
  - (b) Verification of the request
  - (c) Time serial departs from delivery deck
  - (d) Identification of helicopter carrying serial.

An alternate HLSC is designated in the same ship as the alternate primary HDC. The alternate HLSC is activated concurrently with the HLSC and is prepared to assume the duties of the HLSC, if required.

**5.4.10 Airborne Coordination.** Airborne coordination is conducted by the ASC(A) and tactical air coordinator (airborne) (TAC(A)).

**5.4.10.1 Assault Support Coordinator (Airborne) (ASC(A)).** The ASC(A) (formerly the

HC(A)) is a LF helicopter qualified aviator airborne in the landing area in a command and control helicopter. It is imperative that the ASC(A) is thoroughly knowledgeable in every facet of the operation.

The ASC(A) is responsible for the following functions under the cognizance of the primary HDC:

1. Airborne coordination and air traffic control of helicopters from the penetration control point (PCP) en route to and from the LZ
2. Coordination with TAC(A)s to ensure that fixed-wing preparation strikes controlled by the TAC(A)s are accurately conducted, timely, and sufficient
3. Advising the primary HDC on the status of the landing including changes made in the selection of LZs.

The ASC(A) provides information concerning:

1. Weather along approach and retirement routes and in the LZ
2. Enemy operations observed along approach and retirement routes
3. Alterations to helicopter routes
4. Employment of supporting arms, including TAC(A) activities.

**5.4.10.2 Tactical Air Coordinator (Airborne) (TAC(A)).** The TAC(A) is an aviator who coordinates, from an aircraft, the action of aircraft engaged in close support of ground or sea forces. The TAC(A), when employed, is the senior coordinator with authority over all aircraft operating within his area of responsibility.

As an on-site airborne extension of the TACC afloat, the TAC(A)'s primary responsibility is airborne deconfliction and coordination of air assets with supporting arms within his assigned area. The TAC(A) coordinates with the ASC(A), tactical air control parties (TACPs), forward air controllers (airborne) (FAC(A)s), and the fire direction centers of artillery (fire support coordination center (FSCC)) and naval surface fire support (NSFS) ships (supporting arms coordination center (SACC)). The TAC(A) reports to the TACC afloat.

TAC(A) responsibilities are:

1. Utilization of assigned assets:
  - (a) Coordinates close air support (CAS) missions
  - (b) Effects handoffs to aircraft terminal controllers
  - (c) Relays threat updates/battle damage assessments
  - (d) Ensures aircraft deconfliction
  - (e) Coordinates helicopter and fixed-wing operations
2. Visual reconnaissance
3. Coordination of fire with NSFS ships and artillery units
4. Assuming FAC(A) when directed
5. Compiling comprehensive debriefs.

**5.4.11 Aerial Observer (AO).** During the assault phase, AO missions in the objective area provide aerial reconnaissance, NSFS spotting, and CAS direction. AO personnel are provided from the ACE.

CLF coordinates requests from subordinate units for AO missions and forwards them to the TACC afloat to schedule aircraft and execute the missions.

**5.4.12 Initial Terminal Guidance (ITG) Team.** An ITG team from division or force RECON provides terminal guidance for helicopter waves from the initial point (IP) to the LZ or for vertical takeoff and landing (VTOL) aircraft to an LZ. An ITG team is inserted into an LZ in advance of the helicopter support team (HST) to execute prelanding RECON tasks and establish and operate signal devices.

The ITG team reports enemy activity that may oppose the landing. The use of an ITG team may prevent LZ preparation due to the presence of friendly troops in or around the LZ.

ITG team responsibilities are:

1. Determining if there are obstructions in the LZ, including chemical, biological, and radiation (CBR) hazards.

2. Giving advance notice of enemy position.
3. Establishing homing and guidance devices. (If LZ preparation precludes the use of ITG teams, a homing device may be inserted by aerial drop after LZ preparation is completed.)
4. Recommending action by following helicopter waves.

ITG team command relationships are described in detail in Appendix L.

**5.4.13 Helicopter Support Team (HST).** HSTs facilitate the landing and movement of personnel, supplies, equipment, and the evacuation of casualties and prisoners of war. HSTs are described in Appendix L.

**5.4.14 Tactical Logistics (TACLOG) Group.** The TACLOG group is described in Appendix J.

**5.4.15 Air Control Ashore.** CLF establishes the following organizations ashore to control tactical aircraft and helicopters and coordinate supporting arms.

**5.4.15.1 Direct Air Support Center (DASC).** The DASC is a subordinate component of a tactical air control system designed for control and direction of CAS and other tactical air support operations. It is collocated with the FSCC and operates under the ACE commander's direction. In addition to tactical air support operations, DASC controls helicopters when control is passed from the TACC afloat to DASC. The LF MRCC is collocated with the DASC for advice on casualty movement. As long as helicopters are based afloat, the primary HDC remains in operation to provide air traffic control for helicopters operating between ships and the shore.

**5.4.15.2 Tactical Air Control Party (TACP).** A TACP is a subordinate operational component of a tactical air control system designed to provide air liaison to the LF and control aircraft.

**5.4.15.2.1 Forward Air Controller (FAC).** The FAC is a naval aviator assigned to the TACP who, from a forward ground or airborne position, controls CAS aircraft.

**5.4.15.3 Air Support Radar Team (ASRT).** The ASRT is a subordinate operational component of the TACC afloat or TACC ashore which provides ground-controlled precision flight path guidance and weapons release direction.

**5.4.15.4 Tactical Air Operations Center (TAOC).** The TAOC provides for the direction and

control of all en route air traffic and air defense operations, to include manned interceptors and surface-to-air weapons, in an assigned area. It is under the operational control of the TACC ashore and provides sector antiair warfare (AAW) coordination.

**5.4.15.5 Tactical Air Command Center Ashore (TACC Ashore).** When air control is passed ashore, CLF exercises control of air operations through the ACE commander and the TACC ashore. When the TACC ashore is established and CLF accepts responsibility for all aircraft and air warning functions of tactical air operations in the AOA, the TACC afloat becomes a TADC.

## 5.5 EXECUTION

The helicopterborne ship-to-shore movement of scheduled waves to helicopter landing zones (HLZs) is conducted in accordance with the HEALT and helicopter landing diagram. After launching, helicopters proceed to the HLZ via specific control points (CPs) and routes as described in paragraph 5.5.4.2. After discharging their loads, helicopter waves rendezvous and proceed via specific CPs and routes to a breakup point. At the breakup point, individual flights return to their respective ships or proceed as directed by the primary HDC.

On return trips helicopters may be used for MEDEVAC. In such cases, they proceed from the HLZ via the retirement route directly to the CRTS, unless otherwise directed by the primary HDC acting on advice from the ATF MRCO.

**5.5.1 Enplanement.** LF enplanement in helicopters is conducted by shipboard debarkation control personnel assisted by LF personnel.

Troops in the helicopterborne ship-to-shore movement are organized into heliteams in accordance with the heliteam wave and serial assignment table. Passenger manifests are prepared, life preservers are provided by the helicopter squadron, and troops are mustered in an assembly area.

Heliteams are moved, under the control of heliteam leaders, from the assembly area to the flight deck staging area. At the proper time, heliteams are led by guides to helicopter loading points where they enplane under the direction of the helicopter loading supervisor. The guide collects the manifests, marks them with the helicopter's identification number, and passes them to the debarkation control representative.

**5.5.2 Troop and Equipment Categories.** Helicopterborne troops and supplies are arranged in the

same categories as for the waterborne ship-to-shore movement. These categories are discussed in paragraph 3.3.2.

**5.5.2.1 Scheduled Waves.** Scheduled waves land in accordance with the HEALT. The scheduled time for the first helicopterborne wave to land is L-hour, which may be concurrent with H-hour or another time may be designated depending on the scheme of maneuver ashore.

**5.5.2.2 On-Call Waves.** On-call waves are listed in the HEALT and held in readiness aboard ship. They land when requested by tactical commanders through the helicopterborne RLT TACLOG detachment.

**5.5.2.3 Nonscheduled Units.** Nonscheduled units land in accordance with the LF landing sequence table upon completion of scheduled waves or as requested by tactical commanders through the helicopterborne RLT TACLOG detachment.

Once started, the landing of nonscheduled units may be interrupted to permit the landing of on-call waves or other selected serials, or it may be temporarily suspended because of unforeseen conditions, such as a high-priority mission.

**5.5.2.4 Prestaged Helicopter-Lifted Supplies.** Paragraph 3.3.2.4.2 covers prestaged helicopter-lifted supplies.

**5.5.3 Helicopter Areas, Routes, and Points.** The following areas, routes, and points are used to direct and control the movement of helicopters during the ship-to-shore movement. Figure 3-28 depicts an example of a helicopter landing diagram and shows the areas, routes, and points discussed in paragraphs 5.5.3.1 to 5.5.3.11.

**5.5.3.1 Landing Zone (LZ).** An LZ is a specific area for landing VTOL aircraft or helicopters. LZs are designated by code names.

**5.5.3.2 Helicopter Landing Zone (HLZ).** An HLZ is a specified ground area for landing helicopters to embark or disembark troops/cargo. An HLZ may contain one or more landing sites and is designated by a code name. The operation and organization of HLZs is discussed in detail in Appendix L.

**5.5.3.3 Landing Site.** A landing site is an area within an HLZ containing one or more landing points for a single flight or wave of helicopters to land and embark or disembark troops/cargo. Landing sites do not have to be geographically contiguous and are designated by a color.



**5.5.3.4 Landing Point.** A landing point is an area within a landing site where one helicopter or VTOL aircraft can land. Landing points are designated by the use of two-digit numbers.

**5.5.3.5 Helicopter Approach and Retirement Route.** Helicopter approach and retirement routes are a track or series of tracks along which helicopters move to and from a departure point (DP) to a specified HLZ. Planned routes facilitate coordinating helicopter movement with fire support plans and are designated by the names of states.

**5.5.3.6 Penetration Control Point (PCP).** The PCP is the point along a helicopter approach route at which helicopter waves penetrate a coastline. PCPs are designated by names of cities.

**5.5.3.7 Initial Point (IP).** The IP is an air control point in the vicinity of the HLZ from which individual flights of helicopters are directed to landing sites. IPs are designated by names of cities.

**5.5.3.8 Rendezvous Point (RP).** The RP is at a given altitude and position relative to the departure point (DP) for assembling helicopters. RPs are not named.

**5.5.3.9 Departure Point (DP).** The DP is an air control point at the seaward end of the helicopter approach route from which helicopter waves are dispatched to the IP. DPs are designated by names of cities.

**5.5.3.10 Control Point (CP).** A CP is a position marked by a buoy, ship or craft, electronic device, or conspicuous terrain feature that is used as an aid to navigation or for timing. CPs are designated by names of cities.

**5.5.3.11 Breakup Point.** The breakup point is where helicopters returning from an HLZ break formation and are released to return to individual ships or dispatched for other employment. The breakup point may be the same as the DP.

**5.5.4 Helicopter Operations With Control Afloat.** Helicopters are launched at the times and in the order prescribed in the HEALT. Control procedures and requests for on-call waves and non-scheduled units are described in paragraphs 5.5.4.1 to 5.5.4.6.

**5.5.4.1 Helicopter Platform Landing/Launch Control.** Helicopter air traffic control is maintained by primary flight (PriFly) control on the land/launch net for takeoff, landing, and operations in the ship's

control area (normally a five nm radius). Under instrument flight rules (IFR) conditions, the LHD, LHA, or LPH's HDC controls approaches and departures within the ship's control area. Under visual flight rules (VFR) conditions, air traffic control of aircraft departing the ship's control area is passed from PriFly to HDC. Air traffic control of returning aircraft is passed in the reverse order. The shift of air traffic control is coordinated between HDC and PriFly and aircraft are directed to shift radio frequencies.

**5.5.4.1.1 Helicopter Carrier Air Traffic Control Procedures.** Helicopter carrier air traffic control procedures are contained in the LHA/LPH/LHD naval air training and operating procedures standardization program (NATOPS) manual.

**5.5.4.1.2 Rescue Helicopter Procedures.** Rescue helicopter procedures are contained in NWP 42, "Shipboard Helicopter Operating Procedures" and the LHA/LPH/LHD NATOPS manual.

**5.5.4.1.3 Helicopter Safety Boat (HSB).** For HSB requirements, refer to NWP 42. Appendix H lists special purpose equipment carried in the HSB.

**5.5.4.2 En Route Control.** An HDC takes control of each flight on the HD net before they arrive at the RP and controls the flight to the RP where air traffic control is shifted to the primary HDC. The HSC Det reports the status of assault waves to the HCS as they proceed inbound on approach routes on the helicopter command (HC) net. The flight leader checks in with the ASC(A) for air traffic control at the PCP. When the ASC(A) determines that terminal guidance is operational in the HLZ, terminal control is passed to the ITG team or helicopter control element (HCE) of the HST.

On leaving the LZ, the flight leader checks in with the primary HDC or ASC(A) for air traffic control to the breakup point where flights are cleared for individual ship's control for landing and reloading.

Shipboard and airborne (if available) radar is used to maintain continuous radar surveillance of all flights/waves, particularly at night or during marginal weather.

**5.5.4.3 Terminal Information.** When helicopters report to the ASC(A), or TAC(A), for air traffic control, they are briefed on any changes to the prebriefed HLZ situation, including:

1. Wind direction and velocity
2. Physical obstructions in the HLZ

3. Friendly and enemy positions
4. How the HLZ is marked
5. Other matters of interest.

Prior to landing, the pilot informs the heliteam leader of the direction in which the helicopter will be heading after landing.

**5.5.4.4 Requests for On-Call Waves.** Requests for on-call waves are normally made by tactical commanders on the helicopterborne unit command net to the HST and then transmitted to the helicopterborne RLT TACLOG detachment on the HST control net. The TACLOG detachment monitors the supported unit tactical net to anticipate tactical and logistical requirements.

Upon receipt of a request for on-call waves, the helicopterborne RLT TACLOG detachment notifies the HCS Det and HLSC of the request. The HSC Det provides helicopters for the requested lift and the primary HDC directs their movement to the appropriate ship and HLZ. The HLSC issues instructions to ships concerned to prepare troops, supplies, or equipment for debarkation. The HCS and Marine air-ground task force (MAGTF) command element (CE) monitor these requests and by silence indicate concurrence.

**5.5.4.5 Requests for Nonscheduled Units.** After scheduled waves are landed, or sooner if requested by tactical commanders ashore, nonscheduled units are landed in accordance with the LF landing sequence table. The method for requesting nonscheduled units early or out of sequence is identical to that for on-call waves.

**5.5.4.6 Changes in Landing Sequence.** Helicopterborne unit requests for serials out of sequence are identical to those for on call waves. The helicopter transport unit commander first determines that ship loading will support the request. With his concurrence the HLSC directs the appropriate ship to prepare the serials for debarkation. The HCS Det diverts returning helicopters or directs helicopters to launch to accomplish the mission. The HCS and LF TACLOG detachment monitor these requests and by silence indicate concurrence.

**5.5.4.7 Medical Emergency Evacuation (MEDEVAC).** During the initial phase of the helicopterborne ship-to-shore movement, casualties are moved to casualty evacuation stations. Empty helicopters transport casualties to CRTSs on return flights. As the landing progresses, the air plan designates

MEDEVAC helicopters (modified transport helicopters) to evacuate casualties. Such helicopters will have a hospital corpsman and medical supplies and equipment embarked. Casualties are transported to specific CRTS based on the advice of the ATF MRCO collocated with the HCS. Appendix G describes these procedures and the MEDREG organization in detail.

**5.5.5 Downed Helicopter Recovery Operations.** Successful helicopter recovery operations, in the event an aircraft is forced down due to mechanical failure or enemy fire, depends upon the expeditious and coordinated actions of the maintenance recovery team, security element, and recovery vehicle.

The OPORD specifies plans for recovering downed helicopters and includes as a minimum:

1. Organization of helicopter maintenance recovery teams by type of aircraft
2. Security elements available for employment
3. Designated equipment requirements by type aircraft
4. Designated recovery vehicles, call signs, and frequencies.

**5.5.6 Sequence of Events for Helicopter Tactical or CSS Requests From a Helicopterborne Unit.** Refer to Figure 5-2 while reading paragraphs 5.5.6.1 and 5.5.6.2. Paragraph 5.7 explains the communications nets being used.

**5.5.6.1 Tactical Support Request.** Requests for tactical support are made as follows:

1. Helicopterborne unit ashore requests helicopters for tactical support on the HR net.
2. The MAGTF CE monitors the HR net and negate or give consent by silence.
3. The HCS Det receives the request on the HR net and takes action if helicopters are available. If helicopters are not available or the request generates a conflict with present requirements, the HCS Det refers the request to the HCS on the HC net.
4. The HSC Det directs helicopters be launched on the HC net and provides helicopter routing, if required, to the HCS for coordination with supporting arms.





5. Assigned helicopter platform controls helicopters from the ship to the RP on the land/launch or an HD net. At the RP air traffic control is turned over to the primary HDC.

6. The primary HDC controls helicopters from the RP to the PCP on an HD net.

7. The ASC(A) controls helicopters from the PCP to IP on the HD net.

8. The HCE of the HST controls helicopters from the IP to the HLZ on the HLZ control net.

**5.5.6.2 CSS Request.** Requests for CSS are made as follows:

1. Helicopterborne unit ashore requests CSS from the HST on the helicopterborne unit command net.

2. HST checks dumps. If supplies are not available ashore, HST requests supplies from the helicopterborne RLT TACLOG detachment on the HST control net.

3. The helicopterborne RLT TACLOG detachment coordinates delivery with the HLSC and HCS Det.

4. HLSC locates supplies afloat and directs appropriate ships to prepare supplies for helicopter lift on the helicopter logistics command net.

5. The HCS Det directs helicopters to be launched on the HC net and provides helicopter routing, if required, to the HCS for coordination with supporting arms.

6. The primary HDC provides air traffic control en route the HLZ as described in paragraph 5.5.6.1.

### **5.5.7 Sequence of Events for Helicopter Tactical or CSS Request From a Surfaceborne Unit.**

Refer to Figure 5-3 while reading paragraphs 5.5.7.1 and 5.5.7.2. Paragraph 5.7 explains the communications nets being used.

**5.5.7.1 Tactical Support Request.** Requests for tactical support are made as follows:

1. Surfaceborne unit requests helicopters for tactical support from the LFSP on the supported unit tactical net.

2. The LFSP relays the request to the HCS Det on the HR net.

3. The MAGTF CE monitors the HR net and negates or gives consent by silence.

4. The HCS Det directs helicopters be launched on the HC net and provides helicopter routing, if required, to the HCS for coordination with supporting arms.

5. Assigned helicopter platform controls helicopters from the ship to the RP on the land/launch or an HD net. At the RP flight control is turned over to the primary HDC.

6. The primary HDC provides air traffic control en route the HLZ as described in paragraph 5.5.6.1.

**5.5.7.2 CSS Request.** Requests for CSS are made as follows:

1. Surfaceborne unit makes CSS request on supported unit tactical or landing force support party (LFSP) control net. LFSP checks beach dumps and serials are not available.

2. LFSP requests the surfaceborne RLT TACLOG detachment located on the primary control ship (PCS), on the LF CSS or LFSP command net, provide the serials. The surfaceborne RLT TACLOG detachment locates the serials on ships in the transport group and surface means are not available for delivery or helicopter delivery is determined to be the most expedient delivery method.

3. The surfaceborne RLT TACLOG detachment passes the request to the LF TACLOG detachment to coordinate helicopter employment with the MAGTF CE. With MAGTF CE concurrence the LF TACLOG detachment notifies the helicopterborne RLT TACLOG detachment of the CSS requirement on the LF CSS net and this TACLOG detachment coordinates with the HSC Det and HLSC for delivery of the serials.

4. HLSC directs the appropriate ships to prepare the serials for helicopter lift on the helicopter logistics command net.

5. The HSC Det directs helicopters be launched on the HC net and provides helicopter routing, if required, to the HCS for coordination with supporting arms.

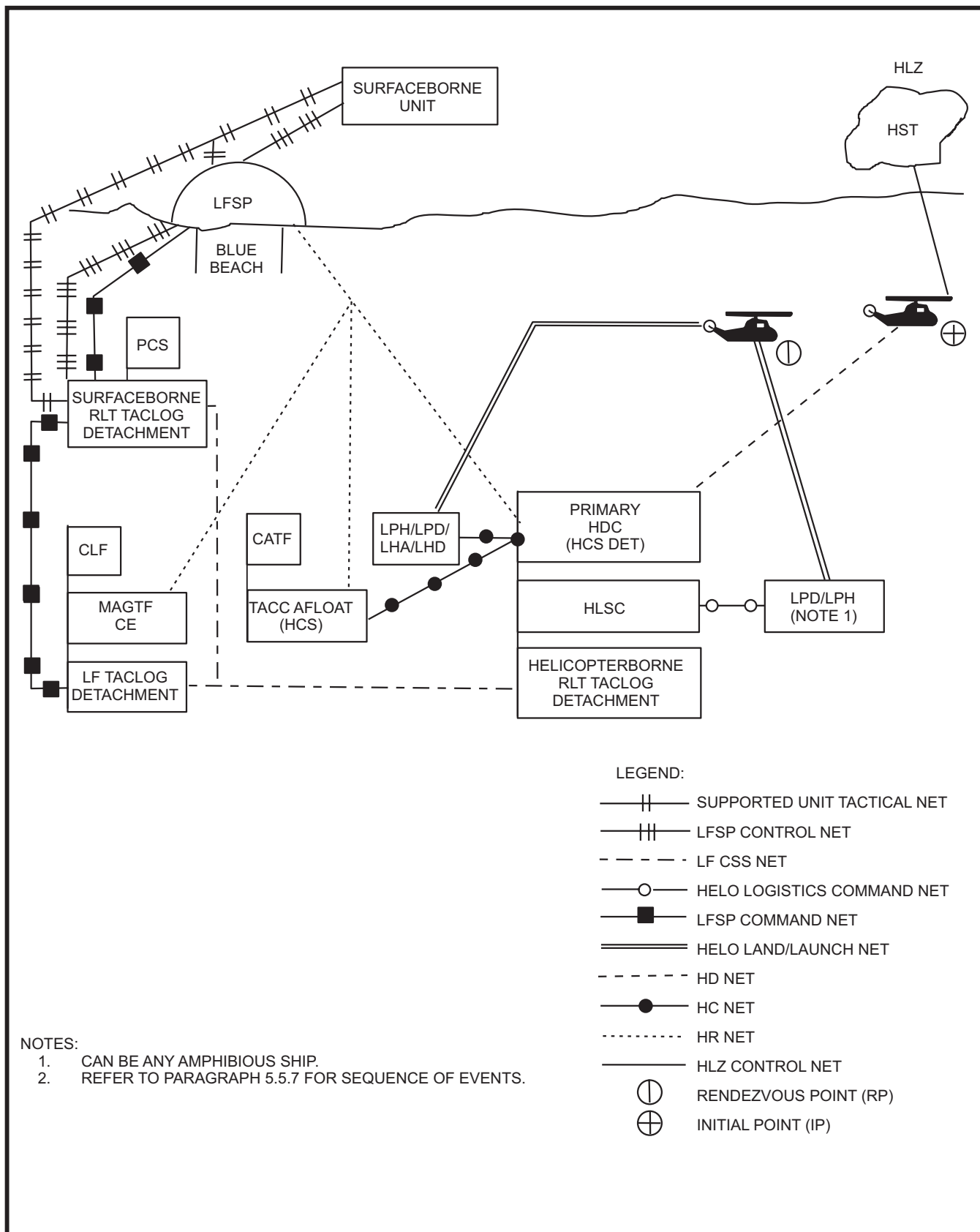


Figure 5-3. Helicopter Tactical or CSS Requests From a Surfaceborne Unit

6. The launch helicopter platform shifts helicopters to the land/launch net of the helicopter platform with the serial embarked.

7. Helicopters load serials, launch, and are directed to the RP on the land/launch or an HD net. At the RP helicopters are directed to shift to the primary HDC for air traffic control.

8. The primary HDC provides air traffic control en route the HLZ as described in paragraph 5.5.6.1.

#### **5.5.8 Helicopter Operations With Control Ashore.**

Phasing any portion of air control ashore is formally executed between CATF and CLF. Transfer of air control functions ashore generally occurs when the facilities for coordinating supporting fire and air control are established. To control helicopters and coordinate their operations with supporting fire, the LF establishes the DASC and FSCC ashore.

**5.5.8.1 Control of Helicopters is Ashore and Helicopters are Based Afloat.** As long as helicopter units are based afloat, primary HDCs continue to function under the direction of the DASC and remain prepared to resume air traffic control of helicopters in the event of a casualty to the DASC.

Preplanned helicopter employment is controlled by the DASC. Emergency requests for on-call helicopter missions from surfaceborne units are made on the TAR net. DASC requests on-call helicopters ashore on the HR net and coordinates the mission with supporting fire through the FSCC and HCS.

If helicopters ashore are not available, DASC requests the HCS provide them on the HC or HR net. The HCS issues orders to launch helicopters for missions assigned by DASC and the primary HDC controls them from the RP to the CP specified by DASC. At the CP, DASC assumes flight control of the helicopters and directs the mission. Close liaison and coordination is maintained between the HCS and DASC in order that each may be cognizant of helicopter availability and employment.

**5.5.8.2 Control of Helicopters is Ashore and Helicopters are Based Ashore.** Procedures for control of helicopters ashore are in accordance with appropriate LF manuals.

### **5.6 DELEGATION OF AUTHORITY**

Maximum flexibility is given to subordinate commanders during amphibious operations by delegating authority to change and coordinate certain aspects of the assault. For the helicopterborne ship-to-shore

movement delegation of authority to change includes, but is not limited to:

1. Airborne control of helicopters
2. Changing from primary to alternate HLZs
3. Changing approach and retirement routes
4. Changing the landing sequence.

Examples of authority to coordinate that may be delegated are:

1. Coordination of helicopter flights with other aircraft and supporting fire
2. Coordination of maneuvers between adjacent troop units
3. Coordination of supporting fire with troop maneuvers.

The authority delegated must be clearly delineated in the OPORD. OPORDs must also establish:

1. The conditions under which these changes may be made
2. The extent that changes may be made without approval from higher authority
3. The details of reporting changes
4. Other actions required to ensure coordination of helicopter operations with fire support and other air operations.

**5.6.1 Airborne Control of Helicopters.** The airborne control of helicopters in the AOA during multideck operations may be delegated to an ASC(A). Paragraph 5.4.10 provides additional information on airborne coordination.

**5.6.2 Changing from Primary to Alternate Helicopter Landing Zones (HLZs).** CLF selects primary and alternate HLZs for each LF objective based on recommendations from the helicopterborne and helicopter unit commanders. When the use of either HLZ will not affect the scheme of maneuver, plan of supporting fire, or adjacent or higher troop units, the helicopterborne unit commander, in coordination with the helicopter unit commander and ASC(A), may be delegated the authority to change from the primary to alternate HLZ to exploit a tactical advantage or improve a ground situation. If the use of

an HLZ will affect adjacent or higher level troop units, this authority cannot be delegated below the highest troop unit affected or the SACC.

**5.6.3 Changing Approach and Retirement Routes.** Representatives from the ACE in coordination with the HCS and helicopter transport group/unit commander select primary and alternate approach and retirement routes between HLZs and the DP.

When the plan of supporting fire permits both the alternate and primary routes to be designated as an airspace coordination area, even when not in use, the authority to shift from primary to alternate routes may be delegated to the helicopter director or ASC(A).

When the use of other than preselected routes will not affect the scheme of maneuver ashore, plan of supporting fire, or adjacent or higher troop units, the ASC(A) may select routes to accomplish the mission as required. If the use of any route will affect adjacent or higher level troop units, this authority cannot be delegated below the highest level troop unit affected or the SACC.

If the decision to utilize a different route requires establishing an airspace coordination area, the authority to change approach and retirement routes cannot be delegated below the TACC afloat or TACC ashore when all air control functions have been phased ashore.

**5.6.4 Changing the Landing Sequence.** The helicopterborne unit commander will designate the order for landing in the HEALT. As the landing progresses, it may be advantageous to land certain units earlier than scheduled. The authority to direct a change in the landing sequence is normally delegated to the helicopterborne unit commander.

Transport group/unit loading must be considered when changing the landing sequence of helicopterborne units. Serials not readily available aboard ship will not be changed to an earlier loading time without the concurrence of the helicopter transport group/unit commander.

## **5.7 HELICOPTER CONTROL COMMUNICATIONS**

In helicopter operations, flight control is exercised primarily through voice radio. For quiet landings or when emission control (EMCON) policy dictates, detailed briefings are conducted and visual signals and handwritten message boards are used by flight deck and LZ control personnel. These procedures are explained in Appendix E.

**5.7.1 Communications Planning.** Representatives from the HCS, primary HDCs, ATF and LF MRCCs, ATF and LF MRCOs, and helicopterborne and helicopter units are involved in communications planning.

Helicopter nets are listed in CATF's communications plan. A separate helicopter communications plan is not published. Figure 5-4 provides a communications matrix for the helicopterborne ship-to-shore movement.

**5.7.2 Helicopter Command, Control, and Coordination Nets.** Most nets for helicopter command, control, and coordination are in use during the movement phase. These nets are described in the following paragraphs.

**5.7.2.1 Helicopter Command (HC) Net.** The HC net is used by the HCS, HCS Det, air operation centers (HDCs), and ASC(A)s to coordinate and direct the employment of helicopters. It is used by the HCS Det to direct the launching of helicopters from helicopter capable ships for specific missions.

**5.7.2.2 Helicopter Administrative (HA) Net.** The HA net is used by the HCS, HCS Det, and helicopter capable ships for administrative and logistics matters pertaining to helicopter operations. It may be combined with the HC net.

**5.7.2.3 Helicopter Request (HR) Net.** The HR net is used by the HCS, HCS Det, helicopterborne unit TACP and HST, and LFSP to request immediate helicopter support. The LFSP guards this net for surfaceborne units.

**5.7.2.4 Helicopter Direction (HD) Net.** The HD net is used by the primary HDC or air operations centers (HDCs) for positive or advisory air traffic control of helicopters. The helicopter air controller utilizes the HD net to direct the flight course and altitude of helicopters and holdings, letdowns, and climbouts when required. ASC(A) and TAC(A) use the HD net for air traffic control in the objective area.

**5.7.2.5 Land/Launch Net.** A land/launch net is used by each PriFly for helicopter air traffic control within their control area under VFR conditions.

**5.7.3 Helicopter Support Team (HST) Nets.** Nets employed by the HST are described in the following paragraphs.

**5.7.3.1 HST Control Net.** The HST control net provides for the exchange of logistics information between the HST, TACLOG detachments, and LFSP.

<div> <div>NETS</div> <div>SUBSCRIBERS</div> </div>	COMMAND, CONTROL, COORD					HST				LFSP			MEDREG
	HELO CMD	HELO ADMIN	HELO REQUEST	HELO DIRECTION	LAND/LAUNCH	HST CONTROL	LZ CONTROL	HCE LOCAL (NOTE 3)	HLZ LOCAL	LFSP CMD	LF CSS	HELO LOG CMD (NOTE 3)	
TACC AFLOAT (HCS)	C	C	C	P									
TADC	P	P	P	P									
PRIMARY HDC (HCS DET)	P	P	P	C									
ASC(A)	X			W	W		W						
TAC(A)				W			W						
SHIPS	X	X		X	C							X	
ESCORT HELOS				W	W								
TRANSPORT HELOS				W	W		W	W					
LF TACLOG DET										X	C		
GCE TACLOG DET						X				X	X		
SURF RLT TACLOG DET						P				X	X		
HELO RLT TACLOG DET						X				X	X		
LFSP			X			X	W			C	X		
SHORE PARTY										P	X		
HST			X			C			C				
HCE							W	X					
LZ CONTROL TEAM				X			C	C	X				
ACE	W	W	W	W		X			W				
CSSE									W	W	C/S		
TACP (NOTE 1)			X										
TACP (NOTE 2)			W										
DASC			C/A	C/A									
FSCC			X										
HLSC												C	
MRCO													C
MEDREG TEAMS													X
NOTES: 1. HELICOPTER-LIFTED LF UNITS. 2. SURFACE-LIFTED LF UNITS 3. ACTIVATED ON "AS REQUIRED" BASIS ONLY. 4. NETS MAY BE COMBINED WHERE PRACTICABLE. 5. REFER TO NWP 22-2 FOR SUPPORTING ARMS COMMUNICATIONS NETS.						LEGEND: C — NET CONTROL STATION (NECOS) P — BE PREPARED TO ASSUME NECOS X — GUARD C/A — NECOS WHEN AIR CONTROL IS PHASED ASHORE W — GUARD WHEN DIRECTED C/S — NECOS WHEN CSSE IS PHASED ASHORE							

Figure 5-4. Helicopterborne Ship-to-Shore Movement Communications Matrix

Multiple HST control nets may be required depending on the scope of helicopter operations.

**5.7.3.2 LZ Control Net.** The LZ control net is used by the HCE for helicopter terminal control from the IP to the HLZ. It also provides communications with the ASC(A).

**5.7.3.3 Helicopter Control Element (HCE) Local Net.** The HCE local net is used by the HCE commander to contact landing sites within an HLZ.

**5.7.3.4 HLZ Local Net.** The HLZ local net is used by the HST to control supply dumps, maintenance sites, evacuation points, etc., within an HLZ.

**5.7.4 LFSP Nets.** Nets employed in logistics operations are described in the following paragraphs.

**5.7.4.1 LF Support Party (LFSP) Command Net.** The LFSP command net is described in paragraph 4.3.8.9.

**5.7.4.2 Landing Force (LF) CSS Net.** The LF CSS net is described in paragraph 4.3.8.11.

**5.7.4.3 Helicopter Logistic Command Net.** The helicopter logistics command net is used by the HLSC for directing ships to prepare serials for offload by helicopters.